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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,530	04/19/2001	George E. Stevenson	XTEN-1-1005	2138

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EXAMINER	
SUKHAPHADHANA, CHRISTOPHER T	
ART UNIT	**PAPER NUMBER**
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/839,530	Applicant(s) STEVENSON ET AL.	
	Examiner Christopher T. Sukhaphadhana	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-26 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 19 April 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 2 contains handwritten notation (ref 24). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Consider removing the a), b), and c) designations of the limitations. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-4, 6, 8-20, 22, and 24-26** are rejected under 35 U.S.C. 102(e) as being anticipated by Irion et al (U.S. Patent 6,190,308 B1, newly cited, "Irion").

5. In regards to **claim 1**, Irion discloses a method comprising: exposing (col 7, line 10, and col 8, line 4) a digital image sensor (ref no 1, Fig 1) comprising an array of photosites (ref no 13, Fig 1, and col 6, line 40) to a test card (e.g. white surface, col 7, line 40); comparing (col 7, line

10) an image signal generated by one or more of the photosites in the array, based on the exposure to the test card, to a threshold value (col 7, line 55); and generating a profile (col 7, line 20 and 30) of the digital image sensor based on the comparison.

6. In regards to **claim 2**, Irion further discloses in col 7, line 52, "detection of strays", the generated profile comprising status information of the photosites in the array.

7. In regards to **claim 3**, Irion further discloses in col 7, line 30, the method further comprising storing the generated profile in memory associated with the digital image sensor.

8. In regards to **claim 4**, Irion further discloses in col 8, line 6, "inserted in succession", the method further comprising repeating the steps of exposing and comparing for one or more additional test cards.

9. In regards to **claim 6**, Irion further discloses in col 6, line 42, and col 3, line 16, the digital image sensor is a color device and the test cards are different base colors.

10. In regards to **claim 8**, Irion further discloses the method further comprising: recording an image by the digital image sensor (col 7, lines 21 and 25); and adjusting the recorded image (col 7, lines 22 and 29), according to the stored profile (col 7, line 20 and 30) and a compensation algorithm (col 7, line 56).

11. In regards to **claim 9**, Irion further discloses in col 7, line 55, adjusting the value assigned to a malfunctioning photosite interpolates the value of adjacent photosites.

12. In regards to **claim 10**, Irion further discloses in col 7, line 52, "detection of strays", the status information for a photosite indicates if the photosite is inoperable, and in col 7, line 55, the adjusting comprising determining an average value of pixels surrounding a pixel corresponding

to a photosite determined to be inoperable, and assigning the average value to the pixel that corresponds to the inoperable pixel.

13. In regards to **claim 11**, Irion discloses a computer program product comprising: a first component for receiving (col 7, line 10, and col 8, line 4) an image signal generated by a digital image sensor (ref no 1, Fig 1) comprising an array of photosites (ref no 13, Fig 1, and col 6, line 40) after exposure to a test card (e.g. white surface, col 7, line 40); a second component for comparing (col 7, line 10) the received image signal to an expected image signal result (col 7, line 12) for the one or more of the photosites for the test card; and a third component for generating a profile (col 7, line 20 and 30) of the digital image sensor based on the comparison.

14. In regards to **claims 12 and 13**, all the additional elements set forth in this claim have been addressed in the argument of claim 2 and 3, respectively.

15. In regards to **claim 14**, Irion further discloses in col 18, lines 3-16, the product further comprising a repeating component for repeating the function performed by the first through fourth components for different test cards.

16. In regards to **claim 15**, Irion discloses a computer program product comprising: a first component for recording an image (col 7, line 10, and col 8, line 4) by a digital image sensor (ref no 1, Fig 1) comprising an array of photosites (ref no 13, Fig 1, and col 6, line 40), wherein the digital image sensor includes a profile (col 7, line 20, 23, 30, and 52 "detection of strays") of the operable status of the photosites; a second component for adjusting (col 7, line 22 and 28) the recorded image according to the profile and a compensation algorithm (col 7, line 55).

17. In regards to **claim 16**, Irion further discloses in col 7, line 55, the second component comprising determining an average value of pixels surrounding a pixel corresponding to a

photosite with inoperable status information, and entering the determined average value as the value for the pixel that corresponds to the inoperable photosite.

18. In regards to **claim 17**, Irion discloses a system comprising: one or more test cards (col 3, lines 15-17); a digital image sensor (ref no 1, Fig 1) comprising an array of photosites (ref no 13, Fig 1, and col 6, line 40); and an image processor (ref no 19, Fig 1) for comparing (col 7, line 10) an image signal generated by one or more of the photosites in the array of the digital image sensor, based on exposure of the sensor to one of the one or more test cards (col 7, line 40, "white surface"), to a threshold value (col 7, line 54), and for generating a profile (col 7, line 20 and 30) of the digital image sensor based on the comparison.

19. In regards to **claim 18 and 19**, all the additional elements set forth in this claim have been addressed in the argument of claims 2 and 3.

20. In regards to **claim 20**, Irion further discloses in col 8, lines 3-16, the image processor generating a profile by comparing an image signal generated by all the photosites when exposed to all the test cards.

21. In regards to **claims 22 and 24-26**, all the additional elements set forth in this claim have been addressed in the argument of claims 6 and 8-10, respectively.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. **Claim 5 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Irion et al (U.S. Patent 6,190,308 B1, cited above, "Irion") as applied to claim 4 above, in combination with Selby et al (U.S. Patent 6,038,038, newly cited, "Selby").

24. In regards to **claim 5**, Irion does not expressly disclose the digital image sensor being a monochrome device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a monochrome device in lieu of Irion's video camera 13 because it would save on costs while reducing the number of necessary calibrations.

Irion may not expressly disclose the test cards being a shade value. However, Irion discloses one test card being a shade value (col 7, line 40, "white surface", also col 3, line 16).

Selby teaches in col 7, lines 19-40, "dark-grey target" and "light-grey target", using test cards that are a shade value.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Selby's test cards into Irion's method because Selby's test cards accurately determine the dark offset level of image sensing elements to enable correction thereof in an image pick-up device (Selby, col 8, line 54).

25. In regards to **claim 21**, all the additional elements set forth in this claim have been addressed in the argument of claim 5.

26. **Claim 7 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Irion et al (U.S. Patent 6,190,308 B1, cited above, "Irion") as applied to claim 6 above, in combination with Lin et al (U.S. Patent 6,069,973, newly cited, "Lin").

In regards to **claim 7**, Irion does not expressly disclose the test cards comprising a red test card, a green test card, and a blue test card. However, Irion teaches using "homogeneous color charts, preferably with pure prime colors".

While it is well known in the art that the pure prime colors are red, green, and blue, Lin teaches using red, green, and blue targets in the correction of an imaging array (col 5, line 15 and Fig 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize Lin's red, green, and blue targets as Irion's homogeneous color charts because the use of these colors correct for non-uniformity in the color filter coating thickness on each sensor (Lin, col 5, line 10).

27. In regards to **claim 23**, all the additional elements set forth in this claim have been addressed in the argument of claim 7.

Conclusion

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher T. Sukhaphadhana whose telephone number is 703-306-4148. The examiner can normally be reached on 9a-4p M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CTS

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